

In the Claims:

Please amend claims 1, 5, 6, 7, 8, 9, 11-15, 20, 21, 22, 25, 26, 28, 29 and 30. Please cancel claims 31-33. Please add new claims 34-43. The claims are as follows:

1. (Currently Amended) A method for identifying product assets in a supply chain used to satisfy customer demands, comprising:

(a) receiving a customer demand schedule for delivery of products;

(b) receiving feasible a planned inventory requisition schedule of all components to be assembled into said products, said planned inventory requisition schedule generated from said customer demand schedule by a production scheduling run;

(c) ~~receiving customer-schedules for delivery of said products~~ bills of materials listing all components required for each of said products;

after (a), (b) and (c), (d) generating ,by a processor of a computer system, first and second coverage files from said feasible planned inventory schedule, from said customer demand schedule[[s]] and from ~~said bills of materials listing all components required for each of said products first and second coverage files~~, said first coverage file containing a list of assets including products to be used for product shipments and components to assembled into products to meet product shipment demands, said second coverage file containing a list of all other assets; and

after (d), (e) generating ,by said processor of said computer system, from said from said first and second coverage files, a set of demand pegging records, said demand pegging records associating a quantity and an availability date of each component of each product with a required quantity of each of said products, each demand pegging record consistent with said feasible planned inventory requisition schedule.

2. (Original) The method of claim 1, wherein at least some of said components may be assembled from other of said components.

3. (Original) The method of claim 1, wherein at least some of said components are common to one or more of said products.

4. (Original) The method of claim 1, wherein at least some of said components are binned components that are sorted to different specifications from a common component.

5. (Currently Amended) The method of claim 4, further including:

generating by said processor of said computer system, additional demand pegging records for unused binned components that are available in quantities in excess of those required for assembly of said products.

6. (Currently Amended) The method of claim 1, further including:

assigning each component and product listed in said bills of materials having a low-level-code indicating a sequence in which said components are assembled into said products, completed products having a lowest level code and starting component of a completed product having a highest low level code; and

generating said demand pegging records in low-level-code sequence repeating (d) and (e) one low level code at a time in sequence from a lowest low-level-code assigned to completed products to a highest low level code assigned to a starting component of a completed product.

7. (Currently Amended) The method of claim 1, wherein said ~~feasible~~ inventory requisition schedule includes one or more schedules selected from the group consisting of schedules for components from multiple sources, schedules for substitute components for at least some of said components, schedules for inter-source shipments of at least some components and schedules for sorted components that are that are sorted into two or more different part-numbers.

8. (Previously Presented) A method for identifying product assets in a supply chain used to satisfy customer demands, comprising:

(a) selecting, by a processor of a computer system, all records from said requisition map file of components and products having low-level codes equal to a current low-level-code from a bill of material listing all components required for products, each component and product having a low-level-code indicating a sequence in which said components are assembled into said products and each product and component having a unique part-number;

after (a), (b) mapping, by said processor of said computer system, a planned inventory requisition file comprising component availability schedules and a customer demand file comprising product shipment schedules for said products assembled from said components into a requisition map file associating said component availability schedules and said product shipment schedules and including quantities of each component to be used for each product, each component and product having a low-level-code indicating a sequence in which said components are assembled into said products and each product and component having a unique part-number;

(b) ~~selecting all records from said requisition map file of components or products having low-level codes equal to a current low-level-code;~~

after (b), (c) selecting, by said processor of said computer system, from a planned asset file comprising component schedules, records having part numbers equal to the part numbers in the of records selected in ~~step (b)~~ (a);

after (c), (d) selecting, by said processor of said computer system, from said planned inventory requisition file, records having part numbers equal to the part numbers in the records selected in ~~step (b)~~ (a);

after (d), (e) mapping, by said processor of said computer system, records selected in steps (c) and (d) into a coverage file associating component availability with component requirements for each product;

after (d), (f) mapping, by said processor of said computer system, said coverage file and records of corresponding part numbers from said requisition map file into a demand pegging output file comprising demand pegging output records, said demand pegging records associating a quantity and an availability date of each component required to produce a required quantity of each of said products, each demand pegging record consistent with a feasible schedule;

after (f), (g) generating, by said processor of said computer system, additional records in said requisition map file for components required to fabricate products whose records were mapped into said demand pegging output file in step (f); and

after (g), (h) incrementing, by said processor of said computer system, the current low-level-code and repeating steps (b) through (h) until the current low-level code is higher than a highest low-level-code of any said component or said product.

9. (Currently Amended) The method of claim 8, wherein said planned inventory requisition file and said planned asset file are generated by said processor of said computer system, by a

production-scheduling run using said customer demand file as an input to said production-scheduling run and said planned inventory requisition file and said planned asset file comprise feasible schedules.

10. (Original) The method of claim 9, wherein said planned inventory requisition file and said planned asset file include one or more schedules independently selected from the group consisting of schedules for components from multiple sources, schedules for substitute components for at least some of said components, schedules for inter-source shipments of at least some components and schedules for sorted components that are that are sorted into two or more different part-numbers.

11. (Currently Amended) The method of claim 8, wherein step (g) includes:

(i) selecting by said processor of said computer system, from said demand pegging output file all records of components having a planned release into manufacturing ~~at a~~ date later than a date that said planned inventory requisition file was generated;

(ii) mapping by said processor of said computer system, records selected in step (i) to a bill of materials listing all components required for a particular product; and

(iii) generating by said processor of said computer system, additional records in said requisition mapping file for components required to fabricate components whose records were selected in step (i).

12. (Currently Amended) The method of claim 11, further including:

(iv) selecting by said processor of said computer system, all records generated in step (iii) that are for binned components, a binned component defined as a component derived from a common component by sorting said common component to two or more different specifications; and

(v) adding by said processor of said computer system, an additional record to said requisition map file for each unused quantity of each binned component available in excess of a quantity required for assembly of quantities of products using said binned components.

13. (Currently Amended) The method of claim 12, further including:

calculating by said processor of said computer system, the quantity of each common component required by taking the maximum of the quantity required of each binned component divided by a sort percentage for each binned component sorted from said common component.

14. (Currently Amended) The method of claim 8, further including, wherein step (a) further includes:

generating and assigning by said processor of said computer system, said low-level-codes to each component and product.

15. (Currently Amended) A computer system comprising a processor, an address/data bus coupled to said processor, and a computer-readable memory unit adapted to be coupled to said processor, said memory unit containing instructions that when executed by said processor implement a method for identifying product assets in a supply chain used to satisfy customer demands, said method comprising the computer implemented steps of:

(a) receiving a customer demand schedule for delivery of products;

(b) receiving feasible a planned inventory requisition schedule of all components to be assembled into said products, said planned inventory requisition schedule generated from said customer demand schedule by a production scheduling run;

(c) receiving customer schedules for delivery of said products bills of materials listing all components required for each of said products;

after (a), (b) and (c), (d) generating first and second coverage files from said feasible planned inventory schedule, from said customer demand schedule[[s]] and from said bills of materials listing all components required for each of said products first and second coverage files, said first coverage file containing a list of assets including products to be used for product shipments and components to assembled into products to meet product shipment demands, said second coverage file containing a list of all other assets; and

after (d), (e) generating from said from said first and second coverage files, a set of demand pegging records, said demand pegging records associating a quantity and an availability date of each component of each product with a required quantity of each of said products, each demand pegging record consistent with said feasible planned inventory requisition schedule.

16. (Original) The system of claim 15, wherein at least some of said components may be assembled from other of said components.

17. (Original) The system of claim 15, wherein at least some of said components are common to one or more of said products.

18. (Original) The system of claim 15, wherein at least some of said components are binned components that are sorted to different specifications from a common component.

19. (Original) The system of claim 18, further including:

generating additional demand pegging records for unused binned components that are available in quantities in excess of those required for assembly of said products.

20. (Currently Amended) The system of claim 15, further including:

assigning each component and product listed in said bills of materials having a low-level-code indicating a sequence in which said components are assembled into said products, completed products having a lowest level code and starting component of a completed product having a highest low level code; and

generating said demand pegging records in low level code sequence repeating steps (d) and (e) one low level code at a time in sequence from a lowest low-level-code assigned to completed products to a highest low level code assigned to a starting component of a completed product.

21. (Currently Amended) The system of claim 15, wherein said feasible inventory requisition schedule includes one or more schedules selected from the group consisting of schedules for components from multiple sources, schedules for substitute components for at least some of said components, schedules for inter-source shipments of at least some components and schedules for sorted components that are that are sorted into two or more different part-numbers.

22. (Currently Amended) A computer system comprising a processor, an address/data bus coupled to said processor, and a computer-readable memory unit adapted to be coupled to said processor, said memory unit containing instructions that when executed by said processor implement a method for identifying product assets in a supply chain used to satisfy customer demands, said method comprising the computer implemented steps of:

(a) selecting all records from said requisition map file of components and products having low-level codes equal to a current low-level-code from a bill of material listing all components required for products, each component and product having a low-level-code indicating a sequence in which said components are assembled into said products and each product and component having a unique part-number;

after (a), (b) mapping a planned inventory requisition file comprising component availability schedules and a customer demand file comprising product shipment schedules for said products assembled from said components into a requisition map file associating said component availability schedules and said product shipment schedules and including quantities of each component to be used for each product, ~~each component and product having a low-level-code indicating a sequence in which said components are assembled into said products and each product and component having a unique part-number;~~

~~(b) selecting all records from said requisition map file of components or products having low-level codes equal to a current low-level-code;~~

after (b), (c) selecting, from a planned asset file comprising component schedules, records having part numbers equal to the part numbers ~~in the~~ of records selected in step-(b) (a);

after (c), (d) selecting, from said planned inventory requisition file, records having part numbers equal to the part numbers in the records selected in step-(b) (a);

after (d), (e) mapping records selected in steps (c) and (d) into a coverage file associating component availability with component requirements for each product;

after (d), (f) mapping said coverage file and records of corresponding part numbers from said requisition map file into a demand pegging output file comprising demand pegging output records, said demand pegging records associating a quantity and an availability date of each component required to produce a required quantity of each of said products, each demand pegging record consistent with a feasible schedule;

after (f), (g) generating additional records in said requisition map file for components required to fabricate products whose records were mapped into said demand pegging output file in step (f); and

after (g), (h) incrementing the current low-level-code and repeating steps (b) through (h) until the current low-level code is higher than a highest low-level-code of any said component or said product.

23. (Original) The system of claim 22, wherein said planned inventory requisition file and said planned asset file are generated by a production-scheduling run using said customer demand file as an input to said production-scheduling run and said planned inventory requisition file and said planned asset file comprise feasible schedules.

24. (Original) The system of claim 23, wherein said planned inventory requisition file and said planned asset file include one or more schedules independently selected from the group consisting of schedules for components from multiple sources, schedules for substitute components for at least some of said components, schedules for inter-source shipments of at least

some components and schedules for sorted components that are that are sorted into two or more different part-numbers.

25. (Currently Amended) The system of claim 22, wherein step (g) includes:

(i) selecting from said demand pegging output file all records of components having a planned release into manufacturing at a date later than a date that said planned inventory requisition file was generated;

(ii) mapping records selected in step (i) to a bill of materials listing all components required for a particular product; and

(iii) generating additional records in said requisition mapping file for components required to fabricate components whose records were selected in step (i).

26. (Currently Amended) The system of claim 25, further including:

(iv) selecting all records generated in step (iii) that are for binned components, a binned component defined as a component derived from a common component by sorting said common component to two or more different specifications; and

(v) adding an additional record to said requisition map file for each unused quantity of each binned component available in excess of a quantity required for assembly of quantities of products using said binned components.

27. (Original) The system of claim 26, further including:

calculating the quantity of each common component required by taking the maximum of the quantity required of each binned component divided by a sort percentage for each binned component sorted from said common component.

28. (Currently Amended) The system of claim 22, further including, wherein step (a) further includes:

generating and assigning said low-level-codes to each component and product.

29. (Currently Amended) A program storage device readable by machine, tangibly embodying a program of instructions executable by the machine to perform method steps for identifying product assets in a supply chain used to satisfy customer demands said method steps comprising:

(a) receiving a customer demand schedule for delivery of products;

(b) receiving feasible a planned inventory requisition schedule of all components to be assembled into said products, said planned inventory requisition schedule generated from said customer demand schedule by a production scheduling run;

(c) receiving customer-schedules for delivery of said products bills of materials listing all components required for each of said products;

after (a), (b) and (c), (d) generating first and second coverage files from said feasible planned inventory schedule, from said customer demand schedule[[s]] and from said bills of materials listing all components required for each of said products first and second coverage files, said first coverage file containing a list of assets including products to be used for product shipments and components to assembled into products to meet product shipment demands, said second coverage file containing a list of all other assets; and

after (d), (e) generating from said first and second coverage files, a set of demand pegging records, said demand pegging records associating a quantity and an availability date of each component of each product with a required quantity of each of said products, each demand pegging record consistent with said feasible planned inventory requisition schedule.

30. (Currently Amended) A program storage device readable by machine, tangibly embodying a program of instructions executable by the machine to perform method steps for identifying product assets in a supply chain used to satisfy customer demands said method steps comprising:

(a) selecting all records from said requisition map file of components and products having low-level codes equal to a current low-level-code from a bill of material listing all components required for products, each component and product having a low-level-code indicating a sequence in which said components are assembled into said products and each product and component having a unique part-number;

after (a), (b) mapping a planned inventory requisition file comprising component availability schedules and a customer demand file comprising product shipment schedules for said products assembled from said components into a requisition map file associating said component availability schedules and said product shipment schedules and including quantities of each component to be used for each product, each component and product having a low-level-code indicating a sequence in which said components are assembled into said products and each product and component having a unique part-number;

(b) selecting all records from said requisition map file of components or products having low-level codes equal to a current low-level-code;

after (b), (c) selecting, from a planned asset file comprising component schedules, records having part numbers equal to the part numbers ~~in the~~ of records selected in ~~step (b)~~ (a);

after (c), (d) selecting, from said planned inventory requisition file, records having part numbers equal to the part numbers in the records selected in ~~step (b)~~ (a);

after (d), (e) mapping records selected in steps (c) and (d) into a coverage file associating component availability with component requirements for each product;

after (d), (f) mapping said coverage file and records of corresponding part numbers from said requisition map file into a demand pegging output file comprising demand pegging output records, said demand pegging records associating a quantity and an availability date of each component required to produce a required quantity of each of said products, each demand pegging record consistent with a feasible schedule;

after (f), (g) generating additional records in said requisition map file for components required to fabricate products whose records were mapped into said demand pegging output file in ~~step (f)~~; and

after (g), (h) incrementing the current low-level-code and repeating steps (b) through (h) until the current low-level code is higher than a highest low-level-code of any said component or said product.

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34. (New) The method of claim 1, wherein said all other assets include components available in inventory, components currently being manufactured, components planned to be released to

manufacturing, components that can be substituted for required components and components that can be obtained from another plant.

35. (New) The method of claim 1, (d) further including:

generating ,by said processor of said computer system, a planned asset file from said production scheduling run; and

said generating by said processor of said computer system, said first and second coverage files includes:

copying ,by said processor of said computer system, Part Number, Plant, Asset Type, Asset Identifier and Planned Inventory Requisition Reference fields from said planned asset file into corresponding fields of said first and second coverage files;

copying ,by said processor of said computer system, Requisition Type and Requisition Identifier fields from said inventory schedule into corresponding fields said first and second coverage files; and

calculating ,by said processor of said computer system, a Quantity field of said first and second coverage files by disaggregating Projected Quantity fields of said planned asset file and Quantity fields of inventory schedule.

36. (New) The system of claim 15, wherein said all other assets include components available in inventory, components currently being manufactured, components planned to be released to manufacturing, components that can be substituted for required components and components that can be obtained from another plant.

37. (New) The system of claim 15, (d) further including:

generating a planned asset file from said production scheduling run; and

said generating said first and second coverage files includes:

copying Part Number, Plant, Asset Type, Asset Identifier and Planned Inventory Requisition Reference fields from said planned asset file into corresponding fields of said first and second coverage files;

copying Requisition Type and Requisition Identifier fields from said inventory schedule into corresponding fields said first and second coverage files; and

calculating a Quantity field of said first and second coverage files by disaggregating Projected Quantity fields of said planned asset file and Quantity fields of inventory schedule.

38. (New) The method of claim 8, (e) further including:

copying ,by said processor of said computer system, Part Number, Plant, Asset Type, Asset Identifier and Planned Inventory Requisition Reference fields from said planned asset file into corresponding fields of said first and second coverage files;

copying ,by said processor of said computer system, Requisition Type and Requisition Identifier fields from said inventory schedule into corresponding fields said first and second coverage files; and

calculating ,by said processor of said computer system, a Quantity field of said first and second coverage files by disaggregating Projected Quantity fields of said planned asset file and Quantity fields of inventory schedule.

39. (New) The method of claim 8, (b) further including:

(i) copying ,by said processor of said computer system, from said planned inventory requisition file, customer ship records fields Part Number, Plant, Requisition Type, Requisition Identifier, Date and Customer Code into corresponding fields of records in said requisition map file;

(ii) finding ,by said processor of said computer system, from said customer demand file all records having Part Number and Customer Code corresponding to those in (i) and copying fields Customer Part Number and Order Number into corresponding fields of records in said requisition map file

(iii) calculating ,by said processor of said computer system, a Consumption Quantity field of said requisition map file by disaggregating the Quantity field of said planned inventory requisition file against all demands for each P/N; and

(iii) calculating ,by said processor of said computer system, a Customer Demand Quantity field of said requisition map file by disaggregating a Request Quantity field of said customer demand file.

40. (New) The method of claim 8, (f) further including:

(i) calculating, by said processor of said computer system, the Quantity field of said demand pegging output file by disaggregating a corresponding Quantity field of said coverage against all demands for each product part number;

(ii) calculating ,by said processor of said computer system, a Start Quantity field of said demand pegging output file by disaggregating a corresponding Start Quantity field of said coverage file against all demands for each product part number; and

(iii) calculating ,by said processor of said computer system, a Customer Demand Quantity field of said demand pegging file by disaggregating corresponding a Customer Demand Quantity field of said requisition map file.

41. (New) The system of claim 22, (e) further including:

copying Part Number, Plant, Asset Type, Asset Identifier and Planned Inventory Requisition Reference fields from said planned asset file into corresponding fields of said first and second coverage files;

copying Requisition Type and Requisition Identifier fields from said inventory schedule into corresponding fields said first and second coverage files; and
calculating a Quantity field of said first and second coverage files by disaggregating Projected Quantity fields of said planned asset file and Quantity fields of inventory schedule.

42. (New) The system of claim 22, (b) further including:

(i) copying from said planned inventory requisition file, customer ship records fields Part Number, Plant, Requisition Type, Requisition Identifier, Date and Customer Code into corresponding fields of records in said requisition map file;

(ii) finding from said customer demand file all records having Part Number and Customer Code corresponding to those in (i) and copying fields Customer Part Number and Order Number into corresponding fields of records in said requisition map file

(iii) calculating a Consumption Quantity field of said requisition map file by disaggregating the Quantity field of said planned inventory requisition file against all demands for each P/N; and

(iii) calculating a Customer Demand Quantity field of said requisition map file by disaggregating a Request Quantity field of said customer demand file.

43. (New) The system of claim 22, (f) further including:

(i) calculating the Quantity field of said demand pegging output file by disaggregating a corresponding Quantity field of said coverage against all demands for each product part number;

(ii) calculating a Start Quantity field of said demand pegging output file by disaggregating a corresponding Start Quantity field of said coverage file against all demands for each product part number; and

(iii) calculating a Customer Demand Quantity field of said demand pegging file by disaggregating corresponding a Customer Demand Quantity field of said requisition map file.